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4. "On the gaseous transformation of Water, by means of a pile in two separate compartments having no other electric communication between them besides conducting wires of copper, and giving, in the one oxygen alone, and hydrogen alone in the other." By M. Daniel Paret. Communicated by Thomas Bell, Esq., Sec. R.S. &c.

After premising that, at the present time, it is the generally received opinion that water is a compound of oxygen and hydrogen, the author states that he now brings forward an experiment which proves, not that water is a compound, but really a simple element, the generator of oxygen and hydrogen, since, without being decomposed, a volume of water being given, it may be entirely transformed at will, either into oxygen or into hydrogen. Thus, he considers, it is no longer a decomposition of pre-existing elements which is effected, but really a gaseous transformation into two "sub-elements" which are formed at the expense of the water, by the transposition of its combined or coercitive electricity which places itself in excess in the water which becomes oxygen, at the expense of another volume which becomes hydrogen. He considers that this will, no doubt, appear very extraordinary, but that nevertheless it is now "un fait accompli et acquis à la science."

After describing the experiments which he considers support his doctrine, the author concludes by observing that these experiments prove,—1st, that contrary to the indefensible theory, a compound electric fluid which is decomposed and recomposed, there is a true transfer of fluid in the current, which besides would be sufficiently evident by its motive power. 2nd. That the electric fluid is really the coercitive agent of cohesion. 3rd. That water is not a compound, is not an oxide, but truly a first element, the generator of oxygen and of hydrogen. 4th. In fine, it reveals a power unknown until now, and that very likely many other bodies are in the same case as water.

In a second communication the author states that he had occasionally met with some anomalous results on repeating his experiments, and then points out how these are to be obviated.

January 31, 1850.

LIEUT.-COLONEL REID, R.E., Vice-President, in the Chair.

The following papers were read :—

1. "An account of a remarkable Aurora Borealis seen at Montreal on the 13th of August 1849." By Mr. Thomas McGinn. Communicated by Thomas Bell, Esq., Sec. R.S., &c.

The author having witnessed a singular aurora on the 13th of August, in this communication gives a description of the phenomenon. He states that, on the evening in question, the whole northern hemisphere was screened by thick dark clouds, which, though very small, were closely packed together. Shortly after sunset (7<sup>h</sup> 34<sup>m</sup>) it became quite dark, and at 8 o'clock the existence of the